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PUBLIC AGENCY SAFETY MANAGEMENT ASSOCIATION

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Senior Safety Engineer
Division of Occupational Safety and Health
1515 Clay St.
Oakland, CA 94612

Subject: Protection from Wildfire Smoke Draft

Dear Ms. Neidhardt;

On April 12, 2019, the Division of Occupational Safety and Health published a draft of the Protection from Wildfire Smoke Standard. The Public Agency Safety Management Association (PASMA), represents over 140 public agencies in California. Several of our public agencies would be affected by this draft emergency regulation, so this is an issue of utmost importance to those employees who are performing work in areas that might be affected by wildfires.

Below is our recommended language for this emergency regulation and the rationale for each proposed change.

(a) Scope.

- (1) This section applies to outdoor workplaces where the Air Quality Index (AQI) for PM2.5 is greater than 150 for at least five (5) days within a 28-day period, or where the AQI for PM 2.5 is greater than 300 for at least two (2) days within a 28-day period regardless of the AQI for other pollutants, and
 - ~~(A) A wildfire smoke advisory has been issued by a local, regional, state, or federal government agency; or~~
 - ~~(B) There is a realistic possibility that employees may be exposed to wildfire smoke.~~
- (2) The following workplaces and operations are exempt from this section:
 - (A) Enclosed buildings or structures where the air is filtered by a mechanical ventilation system and employee exposure to outdoor or unfiltered air is effectively limited.

- (B) Enclosed vehicles where the air is filtered by a cabin air filter and employee exposure to outdoor or unfiltered air is effectively limited.
 - (C) The employer demonstrates that the concentration of PM_{2.5} in the air does not exceed a concentration that corresponds to an AQI ~~of 150, where the Air Quality Index (AQI) for PM_{2.5} that~~ is greater than 150 for at least five (5) days within a 28-day period, or where the AQI for PM 2.5 is greater than 300 for at least two (2) days within a 28-day period.
 - (D) Firefighters engaged in wildland firefighting.
 - (E) Emergency response personnel performing ~~lifesaving~~ emergency rescue, ~~and~~ evacuation, and utility work including power, water gas and communications.
- (3) For workplaces covered by this section, an employer that is in compliance with this section will be considered compliant with sections 5141 and 5155 for PM_{2.5} with an AQI over 150.

We have serious concerns regarding the adoption of the Air Quality Index (AQI) and using it as a trigger to mandate engineering controls, administrative controls, and respiratory protection. The AQI was established by the Environmental Protection Agency (EPA) for 24-hour exposures of the general public and is not intended to be used as an evaluation method for worker health and safety. Our concern is that the AQI is being used as a sort of substitute permissible exposure limit (PEL), and the AQI is not based on established protocols which have been used to develop PEL's which are more appropriate for the workplace.

It appears that the AQI is being used as a trigger for various requirements, and for all intents and purposes is serving as a substitute permissible exposure limit (PEL). In fact, no equivalent ceiling limits, excursion limits, or short-term exposure limits have been proposed in order to protect workers from wildfire smoke. Another concern is that currently the PEL for respirable particulates is 5 mg/m³ which compares to .054 mg/m³ or 55.4 ug/m³. We echo the concerns of other stakeholders. How can the Division justify establishing this new trigger using an AQI of 150, which is essentially a substitute PEL for respirable particulates, which is 92 times lower than the current PEL for respirable particulates which is 5 mg/m³? By adopting the AQI of 150, the Division is essentially lowering the PEL for respirable particulates for wildfire smoke by a factor of 92. If the concern is over formaldehyde or other contaminants that may be present in wildfires, then those PELs should be reviewed and adjusted where appropriate.

Given the fact that the AQI is based on a 24-hour exposure of the general public, and OSHA's PEL's are based on an 8-hour workday, we believe that the current trigger using an AQI of 150 is not warranted or appropriate, and should take into consideration actual time of exposure and the dose level in order to replicate some sort of dose-response model. For this reason, we believe that any trigger for inclusion in the standard should begin with a PM 2.5 concentration which corresponds to an AQI of 150 for at least 5 days within a 28-day period, or when the AQI for PM 2.5 is greater than 300 for at least 2 days within a 28-day period.

As a practical matter, this would also permit employers to use administrative controls such as job rotation, to limit employee exposures, which would be more feasible given the new trigger levels, and for those situations where the trigger is met, it would allow employees the time to make sure they are clean-shaven before donning respirators.

(b) Definitions.

~~Effective filtration of PM_{2.5}. An area within enclosed buildings, structures, or vehicles that meets either of the following:~~

- ~~(1) The air is filtered by mechanical ventilation system(s) with MERV 13 or equivalent filters, or by more effective filters such as HEPA filters; or~~
- ~~(2) The concentration of PM_{2.5} corresponds to an AQI of 150 or less.~~

~~High-efficiency particulate air (HEPA) filter. A filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.~~

~~MERV. Minimum Efficiency Reporting Value for air filters established by the American Society of Heating, Refrigerating and Air Conditioning Engineers Standard 52.2-2017 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.~~

Stakeholders were informed at the advisory committee meeting that enclosed buildings or structures would meet the definition of effective filtration, and that MERV and HEPA filters would not be required. Based on this information we believe these definitions should be deleted.

(c) Identification of harmful exposures. Whenever ~~an employee may reasonably be expected to be exposed to an AQI greater than 150,~~ the conditions identified in Section (a) are in effect, the employer shall check AQI forecasts and the current AQI on the AirNow website. The employer shall determine the AQI where employees are located, before each shift, and periodically thereafter as needed. The employer may also obtain AQI forecasts and the current AQI from the California Air Resources Board, the local air pollution control district, or the local air quality management district.

Based on our prior recommend changes to the scope, we believe that this change should be reflected in Section (c), which references the conditions identified in Section (a).

(f) Control of harmful exposures to employees.

(1) Control by Respiratory Protective Equipment. Where feasible engineering controls and administrative controls fail to eliminate employee exposure to PM_{2.5} corresponding to an AQI of 150 or less, employers shall comply with the following:

- (A) Where the AQI exceeds 150 and is less than 301, the employer shall provide respirators to all employees for voluntary use in accordance with section 5144 ~~and encourage employees to use respirators.~~ Respirators shall be NIOSH-approved devices that effectively protect the wearers from inhalation of PM_{2.5} (such as N95 filtering facepiece respirators). Respirators shall be

cleaned, stored, ~~and~~ maintained, ~~and worn properly~~ so that they do not present a health hazard to users. Employers shall use Appendix A to this section in lieu of Appendix D to section 5144 for training regarding voluntary use of respirators.

(B) Employees shall not be permitted to wear N-95 respirators for voluntary use or if it is required by their employer, if they have facial hair that lies along the sealing area of the respirator, such as beards, sideburns, moustaches, or even more than one day or 24 hours of growth of stubble

NOTE 1 for subsection (f)(3)(A). Respirator use is not required when the AQI is less than 301.

NOTE 2 for subsection (f)(3)(A). For voluntary use of filtering facepieces, such as N95 respirators, section 5144 does not require fit testing or medical evaluations. For voluntary use of respirators that are not filtering facepieces, such as those with an elastomeric facepiece, section 5144 does not require fit testing, but does require medical evaluations.

NOTE 3 for subsection (f)(3)(A). The Division of Occupational Safety and Health shall be prohibited from issuing any violations of subsection (f)(3)(A) or section 5144 for those situations where workers are observed working without an N-95 respirator or equivalent respirator under the conditions specified in subsection (f)(3)(A).

We recommend that the requirement that the employer “encourage employees to use respirators” be deleted. Not only is this ambiguous language, but it is inappropriate for the employer to be encouraging their employees that may have medical conditions to don respirators for voluntary use. Triggers have already been established in the standard and those triggers should be followed.

We also believe that requiring employers to distribute or provide N-95 respirators for voluntary use based on a trigger (when an AQI of 150 is reached) constitutes a mandate, and is likely a violation of 29 CFR 1910.134, the Fed/OSHA equivalent of the California Respiratory Protection Standard. Cal/OSHA is required to promulgate standards and regulations that are “as least as effective as” (ALEA) as the Federal Standard.

We have added language that respirators for voluntary use should not only be cleaned, stored and maintained, but that they should be worn properly. This includes being clean-shaven. Additional language has been added that employees should not be permitted to wear N-95 or other respirators for voluntary use or otherwise, if they have facial hair that lies along the sealing area of the respirator, such as beards, sideburns, moustaches, or even more than one day or 24 hours of growth or stubble. This is consistent with U.S. Department of Labor (Fed-OSHA) requirements and NIOSH guidance for respirator use.

We also believe that providing N-95 respirators to employees with facial hair is providing them with a false sense of security, and we agree with some of the other stakeholders who have indicated that there is a long-standing determination that the misuse of respirators can be more hazardous than no use. Simply handing out N-95 respirators is not a silver bullet, and will not provide adequate protection to the worker when it is necessary.

According to a study “Facial hair and respirator fit: A review of the literature”, which was published in the American Industrial Hygiene Journal, volume 49, pages 199-204 (Terrence J Stobbe, R.A. DaRoza, M.A. Watkins), fourteen separate studies which looked at the effect of facial hair and the quality of the respirator fit. All but two of the fourteen studies found that in the presence of facial hair, face seal leakage increases from 20 times to 1,000 times. This is important because with significant quantities of face seal leakage the respirator is compromised and likely is not offering the protection that it should for those workers.

Lastly, we are concerned that by providing or distributing N-95 respirators to employees for voluntary use, at some point during a wildfire event Cal/OSHA compliance staff may cite the employer if their employees had been provided the respirators but chose not to use them. In order to clarify that the employer is under no obligation to enforce the use of N-95 respirators under Section (f)(3)(A), we have added language that the Division is prohibited from issuing any violations of subsection (f)(3)(A) or Section 5144 for those situations where workers are observed working without an N-95 or equivalent respirator under the conditions specified in subsection (f)(3)(A).

Conclusion

PASMA appreciates the opportunity to provide recommendations in the development of this standard. If you have further questions regarding any of our comments or proposals, please contact me at (714) 765-4399.

Sincerely,



Bill Taylor, CSP

PASMA-Legislative and Regulatory Representative

cc: Anna Levina, PASMA-South Chapter, President
Gina Eicher, PASMA-North Chapter, President